

1 **GLARE SCREEN**
2 **(September 30, 1996)**

3 **Description**

4 Section 8-25.1 is supplemented with the following:

5
6 Temporary barrier glare screen consists of temporary modular units consisting of
7 vertical blades mounted on a horizontal base rail.
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9 **Materials**

10 Section 8-25.2 is supplemented with the following:

11
12 ***Temporary Barrier Glare Screen***

13 Base rails and blades shall be made of non-warping, non metallic durable plastic;
14 shall be resistant to damage due to impacts, ultraviolet light, ozone,
15 hydrocarbons, and other effects of atmosphere weathering; shall resist stiffening
16 with age; and shall be designed for a minimum life equaling 60 months of outdoor
17 service.
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19 The color of blades shall be gray or green. Only one color shall be used
20 throughout the project. The height of the blade shall be 24 inches. The blade
21 width and spacing shall provide for a minimum 22 degree sight cutoff angle. The
22 length of the unit shall be the same as the length of the concrete barrier that the
23 unit is mounted on. The unit can be composed of smaller sub-units as long as the
24 completed assembly is the same length as the concrete barrier. The unit shall not
25 exceed 4.5 pounds per linear foot.
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27 Brackets and mounting hardware may be metallic or non-metallic. Metallic
28 brackets and anchor hardware shall be stainless steel or galvanized in
29 accordance with ASTM A-153. Anchors shall be a stud mechanical system or a
30 flush mount adhesive system, and shall include the necessary washers. The
31 blade to rail base separation strength shall be a minimum of 1,500 pounds.
32 Anchors shall have a minimum 3,000 pound pull-out and shear strength.
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34 Temporary barrier glare screen shall be one of the following manufacturers or an
35 approved equal:
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- 37 1. Modular Glare Screen - manufactured by Carsonite International, 2900
38 Lockheed Way, Carson City, Nevada 89701.
- 39
40 2. Glarefoil Blades - manufactured by Syro Steel Company, P.O. Box 99,
41 Centerville, Utah 84014.
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43 ***Laboratory Tests***

44 Three blades shall be cycled at 1000 hours in a weatherometer in accordance
45 with ASTM G 53 (3 hr. 60C UV, 3 hr. 50C CON). The blades shall show no signs
46 of delamination, distress, or discoloration. Physical properties of tensile strength
47 and rigidity shall be maintained within 80 percent of the unconditioned values.
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1 An impact test shall be performed on three partial sections of the modular unit
2 consisting of the base rail and one blade. The temperature shall be 45 F. The
3 modular unit shall be fastened in a similar fashion as to how the system would be
4 used in the field. Each blade shall receive three impacts with a horizontal steel
5 bar traveling at 50 MPH impacting at mid-height on the blade. After impact, the
6 screening unit (blades and base) shall be inspected for the following criteria:
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- 8 1. Any cracking, splitting, or delamination, other than surface cracking
9 evident on only one face of the blade, is considered a failure.
- 10 2. If the blade leans more than 10 degrees from the vertical it is considered
11 a failure.
- 12 3. Any separation of the blade from the base is considered a failure.
- 13 4. Any separation of the base from the attachment is considered a failure.

14 If an individual blade or base fails any of the above criteria, the product is
15 unacceptable.

16 ***Pre-approval***

17 In order for a particular model of temporary barrier glare screen to become pre-
18 approved, the following conditions must be met:

- 19 1. The manufacturer must submit a written request for pre-approval along
20 with samples for each model to be tested to: Materials Engineer,
21 Department of Transportation Material Laboratory, P.O. Box 167,
22 Olympia, WA 98504. Samples shall be complete with blades, base rail,
23 and mounting hardware and shall be accompanied by the manufacture's
24 written installation procedures.
- 25 2. The barrier screen will be field impact tested by the Olympia Service
26 Center Materials Laboratory to verify compliance with these
27 specifications.
- 28 3. In lieu of Olympia Service Center Materials Laboratory testing, the Lab
29 will accept the results of pre-approved testing performed by the
30 manufacturer or other agencies under the following conditions:
 - 31 a. The Olympia Service Center Materials Laboratory is informed
32 of the pre-approval testing sufficiently in advance in order to
33 attend and observe. Attendance will be at the discretion of the
34 Materials Laboratory.
 - 35 b. The results of the testing shall be reported in sufficient detail to
36 enable the Olympia Service Center Materials Laboratory to
37 evaluate compliance with these specifications.

38 The Manufacturer must submit a certified test report, including test data
39 developed by an approved testing laboratory, which demonstrates that the barrier
40 screening complies with the requirements of the specifications. Certified test data
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1 supplied by the manufacturer shall be subject to verification by appropriate tests
2 conducted by the Olympia Service Center Materials Laboratory.

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4 Frequency of field testing, evaluation, and pre-approval updating shall be at the
5 sole discretion of the Materials Laboratory.
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7 **Construction Requirements**

8 Section 8-25.3 is supplemented with the following:
9

10 ***Temporary Barrier Glare Screen***

11 The blades shall be attached to the rail base in a positive mechanical manner to
12 prevent unintentional blade rotation or dislocation. Temporary barrier glare screen
13 shall be attached to the top of the barrier using approved anchors and following
14 the manufacturer's recommendations. Each modular unit of 10 feet or less shall
15 be secured to the concrete barrier with anchors at a minimum of three points.
16 Modular units greater than 10 feet in length shall be secured at a minimum of four
17 points. Spanning the joint between concrete barrier sections will not be allowed.
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19 When the temporary screening is no longer required, the Contractor shall remove
20 the screening units. When noted in the contract that the screening will become
21 the property of the Contracting Agency, the Contractor shall deliver and stockpile
22 the screening units at the location noted in the contract.
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24 **Measurement**

25 Section 8-25.4 is supplemented with the following:
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27 Temporary barrier glare screen will be measured by the linear foot along its
28 completed line and slope.
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30 **Payment**

31 Section 8-25.5 is supplemented with the following:
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33 "Temporary Barrier Glare Screen", per linear foot.